

REMARKS

The application has been amended and is believed to be in condition for allowance.

Amendments to the Disclosure

Claims 18, 29-30, 34 and 38 are amended to address the matters raised under Section 112 (further detailed below), and to clarify the recitation of the invention. Independent claims 18, 29-30, and 34 are further amended to include the subject matter of dependent claim 41. These amendments to the claims are not believed to introduce new matter (e.g., see specification at page 6, lines 31-35).

Claim 41 is canceled, without prejudice.

Formal Matters - Objections to the Claims

The Official Action rejected claim 30 due to an informality.

In response, claim 30 has been amended in a manner believed to overcome the Official Action's objection

Withdrawal of the objection of claim 30 is respectfully requested.

Formal Matters - Section 112, first paragraph

The Official Action rejected claims 18, 22-25, 27, 35, 36, 38, 39, 41, and 42 under 35 USC 112, first paragraph as not being in compliance with the written description requirement. The Official Action contends that these claims contain subject matter not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In response, claim 18 is amended in a manner believed to overcome the Official Action's objection in view of the written description requirement.

As to claim 36, it is respectfully submitted that support for this claim is found in the specification as originally filed at page 7, lines 11-12: "In one embodiment of the invention, all the assembled blocks have a reinforcement, preferably constant, along their whole external surface 16." Accordingly, it is respectfully submitted that claim 36 is compliant with the written description requirement of Section 112.

Withdrawal of the rejections under 35 USC 112, first paragraph is respectfully requested.

Formal Matters - Section 112, second paragraph

The Official Action rejected claims 18, 22-25, 27, 29, 30, 34-36, 38, 39, 41 and 42 under 35 USC 112, second paragraph as being indefinite.

In response, claim 40 is canceled, and claims 18, 29-30, and 34 are amended in a manner believed to overcome the Official Action's objection.

In particular to claims 18, 29 30, and 34, the claims are explicitly amended to recite that the term "side wall" is

used in a manner particular to the application. As recited in these claims, and described in the specification (see, e.g., page 1, line 24; page 3, lines 5-12; page 6, lines 11-14; Figure 4) the "side wall" as used in this application applies to an entire surrounding wall of a channel in a transverse cross-section, and not (for example) just one side of a 4-sided enclosure.

For example, in Figure 4, channel 14p having internal volume 38 has a "side wall" comprising parts 36₁, 36₂, 36₃, and reinforced part 34 (see specification page 6, lines 1-14).

Thus, it is respectfully submitted that claims 18, 29, 30, and 34, as amended, are definite in view of Section 112. The claims recite a side wall of a reinforced channel divided into two portions: a first portion comprising a reinforcement, and all other portions, a thickness of the first reinforced portion over the that of the other portions being between 1.1 and 3.

Withdrawal of the rejections under 35 USC 112, second paragraph and examination of claims 29, 30, and 34 are respectfully requested.

Substantive Issues - Sections 102 and 103

The Official Action rejected claims 18, 22-25, 27, 29, 35, 36, 38, 39, 41 and 42 under 35 USC 102(b) as being anticipated by Hashimoto et al. (JP 2003/010616, translated as US 7,037,567 B2; hereinafter "HASHIMOTO").

The Official Action also rejects claims 18, 22-25, 27, 29, 35, 36, 38, 39, 41 and 42, in the alternative, under 35 USC

103(a) as being unpatentable over HASHIMOTO in view of disclosures characterized by the Official Action as "Applicant's admission" as evidenced by Matsubara et al. (US 6,060,148; hereinafter "MATSUBARA").

The Official Action rejected claims 30 and 34 under 35 USC 102(b) as being anticipated by HASHIMOTO.

The Official Action also rejected claims 30 and 34, in the alternative, under 35 USC 103(a) as being unpatentable over HASHIMOTO in view of MATSUBARA.

In response, it is respectfully submitted that the independent claims 18, 29 30, and 34 are amended. It is respectfully submitted that none of HASHIMOTO or MATSUBARA, individually or in combination, teach or suggest block structures wherein inlet channels and outlet channels have different shapes.

On the contrary, HASHIMOTO makes no distinction between the shape of the inlet channels and the shape of the outlet channels. Figures 4 to 6 of this reference clearly disclose the cross-sections of the channels being uniform throughout the structure. HASHIMOTO further does not disclose any teaching or suggestion to a differentiation of the shape of the transverse cross section of a channel depending on its nature (inlet or outlet channel).

MATSUBARA also make no such teaching or suggestions to this feature, and further does not even suggest filtration.

It is therefore respectfully submitted that the independent claims 18, 29 30, and 34 are patentable over HASHIMOTO and MATSUBARA, whether considered individually or in combination.

It is also respectfully submitted that claims depending from claim 18 are patentable at least for depending from a patentable parent claim.

For example, it is respectfully submitted that HASHIMOTO and MATSUBARA, whether considered individually or in combination, fail to teach or suggest the feature recited in claim 38.

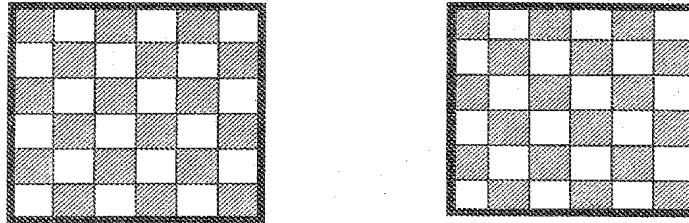
In the invention, the reinforcement is not taken to the detriment of the flow cross sections of the peripheral reinforced channels. The over thickness is added at the periphery of the block, without any modification of the flow cross section of the channels which bear it.

According to the Office Action (page 21), this feature would be taught by HASHIMOTO, particularly in the Figures and at column 5, lines 22 to 33.

Respectfully, it is submitted that the teaching of this passage is contrary to that recited. The reference discloses: "when the average fitness of the side wall 14 is too large, too large a pressure loss appears and impairment of engine performance, etc is incurred, which is not preferred" (column 5, lines 27 to 31). This means that the over thickness is gained to

the detriment of the flow cross section of the peripheral channels.

Please refer to the here enclosed drawing.



In the exemplary cross-section to the left, the thickness of the reinforced outer edge formed by the reinforcement channels does not impede upon the internal area of the reinforcement channels at the periphery of the block.

HASHIMOTO, however, does not teach this. As in the exemplary cross-section to the right, the fitness of the wall is too large, causing pressure loss because of a reduced internal area of the channels along the periphery. As recited by claim 38, the thickness of the reinforced periphery does not cause the pressure loss described by HASHIMOTO because the reinforced channels, inlet and outlet, have flow cross sections substantially identical to those of the internal channels, inlet and outlet.

Therefore, it is respectfully submitted that claim 38 is patentable in its own right, in addition to being dependent from a patentable parent claim.

Withdrawal of the rejections under Sections 102 and 103 are thereby respectfully requested.

From the foregoing, it will be apparent that Applicants have fully responded to the December 16, 2010 Official Action and that the claims as presented are patentable. In view of this, Applicants respectfully request reconsideration of the claims, as presented, and their early passage to issue.

In order to expedite the prosecution of this case, the Examiner is invited to telephone the attorney for Applicants at the number provided below if the Examiner is of the opinion that further discussion of this case would be helpful in advancing prosecution.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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